

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the applications:

1-29. Cancelled.

30. (Previously presented) An improved apparatus for semiconductor processing, the improvement comprising a helical ribbon electrode, wherein the helical ribbon electrode comprises a compressed cylindrical helix having a plurality of flat concentric spiral coils separated from each other by a sheet of dielectric material, each said flat concentric spiral coil comprising a ribbon-like form, said ribbon-like form comprising a width and a thickness wherein the width is substantially greater than the thickness, the width lying in a plane that faces another of said plurality of flat concentric spiral coils, and the thickness corresponding to a plane that is substantially parallel to a direction of stacking of said plurality of flat concentric spiral coils.

31-34. Cancelled.

35. (Currently amended) An apparatus for semiconductor processing, the apparatus comprising:

a process chamber;

a solid state RF plasma generator coupled to the process chamber to excite a processing gas and generate a plasma;

a controller coupled to the solid state RF plasma generator to pulse the solid state radio frequency plasma generator for each deposited layer; and

a cylindrical helical ribbon electrode coupled to an output of the solid state radio frequency plasma generator, the cylindrical helical ribbon electrode further comprising:

a plurality of spirally-connected ribbon-shaped coils, each said coil having a width and a thickness;

the width substantially greater than the thickness and flat in a dimension facing another of said plurality of spirally-connected ribbon-shaped coils; and

the thickness is substantially perpendicular to the width,

wherein the distance between the cylindrical helical ribbon electrode is adapted to be placed within five inches of and a sample situated in the process chamber is less than five inches, and

wherein a sheet of dielectric material separates adjacent said spirally-connected ribbon-shaped coils so that, when compressed, the adjacent surfaces of the spirally-connected ribbon-shaped coils do not touch.

36. (Previously presented) The apparatus of claim 35 wherein a width of the dielectric sheet is greater than the width of the spirally-connected ribbon-shaped coils.

37. Cancelled.

38. (Currently amended) An improved electrode for coupling to the output of a RF generator, the improvement comprising a helical ribbon electrode further comprising:

a plurality of substantially flat, concentric, spirally-connected coils, said coils having a width and a thickness, the width being in a dimension facing an adjacent coil, and the thickness being perpendicular to the width, where the width is substantially greater than the thickness; and

a sheet of dielectric material between adjacent coils.